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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,462	01/27/2004	Wesley M. Norman	10031090-1	1175

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EXAMINER

THERKORN, ERNEST G

ART UNIT PAPER NUMBER

1723

DATE MAILED: 01/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/764,462

Applicant(s)

NORMAN, WESLEY M.

Examiner

Ernest G. Therkorn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

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Claims 12-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear if the filter is a monolith or the filtering device is monolithically integrated into another structure.

Claims 12-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. If claim 12 is intended to mean that the filter is a monolith, then the claims are directed to new matter.

Claims 12-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not appear to disclose how to lithograph a foam structure.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 12-17 are rejected under 35 U.S.C. 102(E) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Koehler (U.S. Patent No. 6,814,859). The claims are considered to read on Koehler (U.S. Patent No. 6,814,859). However, if a difference exists between the claims and Koehler (U.S. Patent No. 6,814,859), it would reside in optimizing the elements of Koehler (U.S. Patent No. 6,814,859). It would have been obvious to optimize the elements of Koehler (U.S. Patent No. 6,814,859) to enhance separation.

Claims 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koehler (U.S. Patent No. 6,814,859) in view of either Riedmann (U.S. Patent No. 3,840,343) or Schulze (U.S. Patent No. 3,988,225). At best, the claims differ from Koehler (U.S. Patent No. 6,814,859) in implying the frit has a foam structure. Riedmann (U.S. Patent No. 3,840,343) (column 2, lines 13-15) discloses that it is desirable to use a foam structure as a frit material. Schulze (U.S. Patent No. 3,988,225) (column 2, line 67-column 3, line 2) discloses that it is desirable to use foam as a frit material. It would have been obvious to use a foam structure as a frit material in Koehler (U.S. Patent No. 6,814,859) either because Riedmann (U.S. Patent No. 3,840,343) (column 2, lines 13-15) discloses that it is desirable to use a foam structure as a frit material or because Schulze (U.S. Patent No. 3,988,225) (column 2, line 67-column 3, line 2) discloses that it is desirable to use foam as a frit material.

Claims 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Tu (U.S. Patent No. 5,938,923) or Dugan (U.S. Patent No. 5,540,849) in view of Ma (U.S. Patent No. 6,673,285). At best, the claims differ from either Tu (U.S. Patent

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No. 5,938,923) or Dugan (U.S. Patent No. 5,540,849) in implying use of a foam structure. Ma (U.S. Patent No. 6,673,285) (column 1, lines 11-15 and 19; column 14, lines 52-55 and 64-65; column 15, lines 2-3) discloses that his foam skeleton porous material is useful as filter material and has the advantage over lithography by not requiring sophisticated equipment, is easily automated for large scale production, and has a well controlled nature in architecture, inter-pore conductivity, physical and mechanical properties. It would have been obvious to use Ma (U.S. Patent No. 6,673,285)'s foam structure in either Tu (U.S. Patent No. 5,938,923) or Dugan (U.S. Patent No. 5,540,849) because Ma (U.S. Patent No. 6,673,285) (column 1, lines 11-15 and 19; column 14, lines 52-55 and 64-65; column 15, lines 2-3) discloses that his foam skeleton porous material is useful as filter material and has the advantage over lithography by not requiring sophisticated equipment, is easily automated for large scale production, and has a well controlled nature in architecture, inter-pore conductivity, physical and mechanical properties.

The remarks urge that the specification discloses how to lithograph a foam structure is disclosed. However, the sections of the specification that are referred to by applicant merely disclose the use of a mask to cover areas that are not to be etched. A mask would appear to be able to produce simple structures. However, a foam includes many layers of intricate three-dimensional structures. As such, it would appear to require something more than a mask. Accordingly, the specification does not appear to disclose how to lithograph a foam structure.

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The remarks urge patentability based upon the allegation that the exact method of making the substrate is not disclosed in Koehler (U.S. Patent No. 6,814,859). However, a product by process claim reads on the same structure produced by other processes. Claim 12's monolithically integrated filter is considered to read on Koehler (U.S. Patent No. 6,814,859)'s column 4, lines 56-59; column 7, lines 62-67; and column 8, lines 37-45 microporous material such a permeable membranes, track-etched membranes, and mesh. In any event, Riedmann (U.S. Patent No. 3,840,343) (column 2, lines 13-15) discloses that it is desirable to use a foam structure as a frit material. Schulze (U.S. Patent No. 3,988,225) (column 2, line 67-column 3, line 2) discloses that it is desirable to use foam as a frit material. It would have been obvious to use a foam structure as a frit material in Koehler (U.S. Patent No. 6,814,859) either because Riedmann (U.S. Patent No. 3,840,343) (column 2, lines 13-15) discloses that it is desirable to use a foam structure as a frit material or because Schulze (U.S. Patent No. 3,988,225) (column 2, line 67-column 3, line 2) discloses that it is desirable to use foam as a frit material.

The remarks urge patentability based upon the allegation that the exact method of making the substrate is not disclosed in either Tu (U.S. Patent No. 5,938,923) or Dugan (U.S. Patent No. 5,540,849) in view of Ma (U.S. Patent No. 6,673,285). However, a product by process claim reads on the same structure produced by other processes. Claim 12's monolithically integrated filter is considered to read on Tu (U.S. Patent No. 5,938,923)'s column 5, lines 28-30; column 6, line 66-column 7, lines 4 etched filtration layer between two bonded substrates. Claim 12's monolithically

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integrated filter is considered to read on Dugan (U.S. Patent No. 5,540,849)'s column 7, lines 46 and 47 and column 8, lines 23-29 etched and lithographed filtration layer between two bonded substrates. In any event, Ma (U.S. Patent No. 6,673,285) (column 1, lines 11-15 and 19; column 14, lines 52-55 and 64-65; column 15, lines 2-3) discloses that his foam skeleton porous material is useful as filter material and has the advantage over lithography by not requiring sophisticated equipment, is easily automated for large scale production, and has a well controlled nature in architecture, inter-pore conductivity, physical and mechanical properties. It would have been obvious to use Ma (U.S. Patent No. 6,673,285)'s foam structure in either Tu (U.S. Patent No. 5,938,923) or Dugan (U.S. Patent No. 5,540,849) because Ma (U.S. Patent No. 6,673,285) (column 1, lines 11-15 and 19; column 14, lines 52-55 and 64-65; column 15, lines 2-3) discloses that his foam skeleton porous material is useful as filter material and has the advantage over lithography by not requiring sophisticated equipment, is easily automated for large scale production, and has a well controlled nature in architecture, inter-pore conductivity, physical and mechanical properties.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

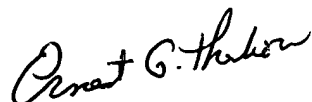
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to E. Therkorn at telephone number (571) 272-1149. The official fax number is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ernest G. Therkorn
Primary Examiner
Art Unit 1723

EGT
January 18, 2006